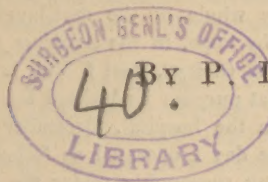


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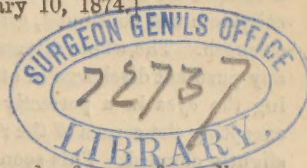
# CLINICAL CONTRIBUTIONS TO OPHTHALMOLOGY.



By P. D. KEYSER, M.D.,

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[From the MEDICAL AND SURGICAL REPORTER, January 10, 1874.]



## Diphtheritic Conjunctivitis — Complete Recovery.

On Dec. 21st, 1871, Ida Zimmerman, one year old, was brought to my clinic at the Philadelphia Eye and Ear Infirmary, with a well-developed case of diphtheretic conjunctivitis. The lids were very much swollen, hard and tense, the conjunctiva covered with a grayish-yellow membrane, of a smooth, glistening appearance, thicker and more opaque in different parts. This membrane could with difficulty be torn off in flakes or shreds, leaving beneath a yellowish tissue through which oozed a little thin blood. The cornea of the right eye was slightly hazy, while that of the left was clear. The little patient was suffering much, appeared emaciated and debilitated. The mother said the child had not been well for some time, but that nothing was the matter with the eyes until the day previous to her coming to my clinic, when they became suddenly inflamed and greatly swollen. No other person in the house had sore eyes or any throat disease.

This most dangerous and destructive disease of the eye is almost unknown in this country; a few cases occur at times in England and France, but many in some of the northern parts of Germany, particularly in the city of Berlin, where I saw several cases in the clinic of the late Professor v. Graefe, during the winter of 1863 and '64. In this city I had not seen a case before this one, and since which date I have

treated many thousands of cases of eye diseases without meeting another one.

What was to be done here for this poor little creature? Under the circumstances the prognosis was unfavorable. The great and most important thing in these cases is to get the swelling reduced, the circulation restored, the tissue softened and a purulent discharge to carry off with it the diphtheritic membrane.

To do this there are different theories of treatment by several writers of experience. Prof. v. Graefe used ice cold cloths applied continually to the eyes, and touched the conjunctiva with aqua chlorinii. Drs. Wecker, Morren, and Berlin recommend hot fomentations continually applied to hasten forward the second stage (that of softening and discharge), without anything in the eyes. All writers caution against the use of astringent lotions, as nitrate of silver and sulphate of zinc or copper in the first stage of the disease. At the same time, also, it is recommended by some to bring the patient under the influence of mercury as quickly as possible, if not in too feeble health, to accelerate the stage of vascularization and elimination of the fibrinous infiltration of the conjunctiva, while others have found that mercury does not produce an influence rapid enough in such cases, and advise against its use as being injurious.

Inclining to the theory of Wecker, Morren and Berlin, I ordered immediately and continually applications of cloths, dipped in hot water,



to hasten the stage of vascularization, etc. At the same time, knowing that the chlorate of potassa was a sovereign remedy in the treatment of diphtheria of the throat, I touched the conjunctiva daily with a solution containing forty grains of that salt to an ounce of water, and dropped in the eyes hourly a collyrium of a twenty grain solution of the same. Internally was given the elixir of calisaya and pyrophosphate of iron as a tonic.

Under this treatment the little patient did astonishingly well. The lids soon began to soften, the membrane came off, and the conjunctiva resumed a bright red color, but no purulent discharge of any account took place. The warm fomentations were now discontinued. Fearing a relapse on the use of astringents, the above collyrium was continued, gradually reducing its strength. The whole disease passed off without any purulent discharge or other treatment, leaving the eyes in a perfectly healthy condition, excepting the cornea of the right eye, which was slightly clouded. This soon cleared up.

This case is interesting—

1st. From its rarity in this city and country.

2d. From its successful termination under so simple a treatment, and without purulent discharge.

3d. From the use of a remedy not mentioned nor recommended by any of the writers upon the subject as far as I can learn.

In relation to the treatment, I am of the opinion that the hot fomentations is the proper one, as it without doubt softens the tissue of the lids and renews the circulation in the blood vessels, which has been retarded or stopped by the pressure from the greatly swollen lids. By so doing, the elimination of the fibrinous infiltration is accelerated, and the cornea as well relieved. The chlorate of potash acted upon the mucous membrane and tissues of the conjunctiva the same as it does on that of the throat.

#### Entropium with Great Incurvature of the Cartilages, Cured by Removal of the Cartilages of both Upper and Lower Lids.

Mrs. B., æt. 43, came to my clinic at the Wills' Ophthalmic Hospital, Philadelphia, December 3d, 1872, with one of the most marked cases of Entropium, with very great incurvature of the cartilages of the upper and lower lids of the left eye, and the upper of the right one. The lids were curled in on themselves so that the cartilages were almost doubled. It was with diffi-

culty that the edges could be drawn out. The cilia were pretty well preserved. The cornea of each eye was covered by a vascular pannus.

Knowing that in such a severe case the removal of a fold of skin, and slitting the lid as recommended by Arlt, v. Graefe, or Jæsch, or the removal of a wedge-shaped piece of the cartilage, according to Streatfield or Snellen, would not give the necessary relief, I proposed to remove the whole of the cartilages as recommended by Pope, in the *Archives for Ophthalmology and Otology*, Part I, Vol. 1.

For that purpose I admitted her as a house patient in the hospital, December 14th, 1872. The same day I operated as follows: The patient being thoroughly under the influence of ether, an incision was made along the free margin of the lid between the cartilage and the orbicularis muscle, close on, in reality almost shaving the cartilage, and back or up along the cartilage to its attachment with the levator muscle. The cartilage being thus well exposed was removed by grasping it with rat-toothed forceps, and snipping it off in pieces with the scissors. In this way the upper cartilages were all removed excepting a small line along the upper rim just at its point of muscular attachment. This remaining rim was dissected up for some distance from the conjunctiva. The posterior flap came down well, and to keep it in its proper position with the anterior one, the two ends of a silk suture were passed through both flaps of the lid from the inner to the outer surface, and tied together. No sutures were applied to the edges of the wound, they being allowed to adhere and cicatrize naturally, which occurred by first intention.

In making the incision along the edge of the lower lid it was carried between the cartilage and conjunctiva, and the whole of the cartilage removed. Here, three sutures were applied to the edges of the wound.

After the operation the cilia stood in their proper positions. Cold wet cloths were applied over the lids to control inflammation. On the second day all the sutures were removed. There was great chemosis the next day after the operation, but it soon began to recede, and the healing process was both rapid and favorable.

The lids kept their position perfectly, and the corneæ cleared up remarkably. On being discharged she went home alone, the first time for over a year that she had gone out without assistance.



It will be seen that I made the incisions in the upper lids different from Dr. Pope's, he making his between the cartilage and conjunctiva, while mine were made anterior to the cartilage. This was done for more convenience and ease in cutting the flaps and greater facility in removing the cartilages.

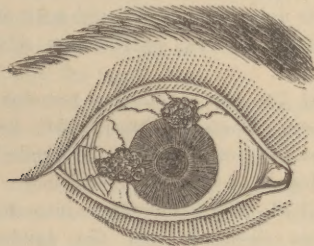
Great care must be taken in removing the cartilage, that the conjunctiva be not cut through, because cicatrices therein will cause more shrinkage and contraction.

The removal of the cartilage from the lid in this case was imperatively necessary, as the curvature was so great that the operations recommended for the removal of such defects would have been of no effect.

#### Removal of Two Cancroidal Tumors from the Surface of an Eye.

Mr. E. C., of Bradford county, Pa., æt. 59, noticed, four years ago, an inflamed and tender spot on the outer corneal border of the right eye. It has continued to grow in breadth and prominence, and at times is very painful. About a year ago another such spot appeared on the upper border of the cornea, and between the two he has suffered at times considerable pain and trouble. Different washes that he has used have given no relief, so that he was sent to me for treatment, June 18th, 1873.

On examining the eye I found two reddish tumors of different sizes on the eyeball, the larger lying on the outer sclero-corneal border, extending 3 m.m. over the edge of the cornea, and 4 m.m. back on the sclerótica, and having a width or breadth of not quite 5 m.m. The other was on the upper border extending only 1 m.m. over the cornea, and 3 m.m. back on the sclerotic, the width about the same measurement, so that it was nearly round. The neigh-



boring conjunctiva was somewhat injected, and three or four large vessels extended to each tumor. Both were firmly attached to the cornea and sclerótica underneath them, and were very sensitive to the touch. Both had the appear-

ance of cancrroids. The vision of the eye was  $\frac{20}{xx}$ . Presbyopia  $\frac{1}{20}$ .

As long as the sight of the eye was good I could do nothing but advise removal of the tumors by operation.

He consented to the removal of the larger one at first, which was done the following day.

The patient being well etherized, the tumor was cut off close to the surface of the cornea and sclerótica, cutting into both of the latter a little, to remove as much as possible from the base. After removal it was plainly seen that the diseased part extended deeply into the tissue of the sclerótica and cornea. The conjunctiva was cut out around, and the edges brought together over the exposed sclerótica by two sutures. A firm compress bandage was applied until the next day, when the sutures were removed, and a collyrium of sulphite of soda, three grs. to the ℥j, ordered to be dropped in the eye daily.

The eye healed remarkably well; the patient returning home the week after.

August 1st following he returned to this city to have the upper tumor removed, as it had given him pain and appeared to have increased since the previous operation. The operation was performed in the same manner as in the previous one, except that the patient was not etherized, he preferring not to be at this time.

The tumor first operated on had given him no trouble since, and looked remarkably well. There was no appearance of its returning. By microscopic examination both tumors were found to be of cancrroidal formation. In this case the patient was given an unfavorable prognosis as to a permanent cure, but as long as the sight remained good in the eye, the removal of the cancrroid growths at once, if they should reappear, was advised; if the sight should be lost the eyeball should be enucleated immediately.

It is now five months since the last operation, and he writes me that the eye is doing well, neither tumor having returned, although the vision in the eye is not so perfect.

Cancroid tumors on the cornea are rather rare, and being of a malignant character their return may be expected, but in what time it is impossible to say. In the *Klinische Monatsblätter für Augenheilkunde*, vol. vii, 1869, I reported a case where I removed a cancrroid tumor from the sclero-corneal border of the eye of a gentleman in this city, 69 years old, which had not returned at that time, two years after the operation.



### Removal of Large Foreign Bodies from the Eyeball.

Michael C., æt. 32, machinist, of Wilmington, Del., came to my clinic at the Philadelphia Eye and Ear Infirmary, March 7th, 1872, with the right eyeball inflamed, swollen, much disorganized and very painful, and with the report that three days previously he had received an injury from a piece of iron bolt flying against the eye. Upon lifting the lid a large incision across the cornea and outer side of the sclerotica was seen, with the edge of something black protruding. With a probe it was found to be hard and metallic. Taking this for the piece of iron it was grasped by the forceps and drawn out. It was a piece from the head of a bolt chipped off by the hammer in riveting. It measured 11 m.m. wide and 3 m.m. thick, weighing 19½ grains.

W. H. Y., æt. 50, machinist, of Philadelphia, came to my clinic at the Wills' Ophthalmic Hospital, March 4, 1873, with the left eye much swollen and inflamed. On the upper lid there was an incision extending from the edge up

about one-half of an inch, with two sutures therein to bring the edges of the wound together. The history of the case was, that the day before a piece of iron had flown and cut his eye. He went immediately to a neighboring physician, who saw nothing but the cut through the lid and put the sutures in. He was the next day advised by his friends to come to this hospital.

On lifting the lid an incision through the cornea and inner side of the sclerotica was seen, with the wound in the latter gaping. Taking a probe to see how far the wound extended, I felt a hard substance. Introducing a pair of forceps, I grasped and drew out from the inside of the ball a piece of iron measuring 21 m.m. long, 10½ m.m. wide, and 3 m.m. thick at the top, while the lower edge was tapering and as sharp almost as a razor. Its weight was 20 grs. Instant removal of the ball was advised, for fear of sympathetic trouble in the other eye, but the patient would not consent thereto and left the hospital.

From the MEDICAL AND SURGICAL REPORTER, March 7, 1874.

### Iritis, with Gelatinous Exudation into the Anterior Chamber.

J. P., æt. 22, came to my clinic at the Wills' Ophthalmic Hospital, March 27th, 1873, with iritis, R. E. The inflammation, with pain, came on a few days previously, but thinking it would pass away he took no notice of it at once. The pupil was irregularly contracted; the iris swollen; considerable peri-corneal injection; vision cloudy; pain severe. He had had gonorrhoea two or three times, but never had a chancre. Has suffered from rheumatic pains in the limbs, and sore throat at times.

A solution of atropia sulph., four grs. to the ounce, was ordered to be dropped into the eye three or four times daily, and ten grs. iodide of potassium, with one-twelfth gr. of bin. iodide of mercury and ten m. tr. colchicum, given inwardly three times daily.

March 29. Iris finely dilated, but color changed to a dirty yellow. Aqueous clear.

April 5. Iris still finely and regularly dilated, but covered with hemorrhagic spots. The pupillary region is completely covered with a gray-

ish, translucent, gelatinous mass, apparently issuing from or attached to the edge of the iris. It looks as if the lens had been dislocated forward and become slightly opaque.

April 8. The exudation has increased in size and thickness. The hemorrhagic spots on the iris still visible.

April 10. The gelatinous exudation has increased so as almost to fill the anterior chamber, and is as opaque as a cataractous lens. The vision is reduced to distinguishment of a bright light only. A very narrow rim of the iris is visible.

April 15. The exudation remains as when last seen. There is considerable hemorrhage into the anterior chamber. The pain in the eye much less.

April 19. The hemorrhage into the anterior chamber absorbed, and the exudation less opaque. No pain in the eye nor over the brow. The process of absorption has begun.

May 8. The whole of the semi-transparent coherent mass is absorbed. The anterior chamber is clear. The iris still discolored and di-



lated. By ophthalmoscopic examination vitreous found to be quite clouded. Ordered hydrarg. bichlor., one-sixteenth gr., three times daily.

From this day on absorption went on rapidly, and the eye cleared up so as to give a vision of  $\frac{20}{XL}$  until

June 7. He returned with the eye again inflamed. Much peri-corneal injection. Iris horizontally oval. Eyeball feels swollen, too large for the socket, painful to the touch. Great burning pain in the eye. Anterior chamber clear, but cornea slightly infiltrated. Vision reduced to  $\frac{20}{XL}$ ; four grain solution of atropia continued. Artificial leech applied to the temple, and fifteen grs. iodide of potassium inwardly, three times daily.

June 10. Eye much better. Iris well and evenly dilated. Pain relieved.

June 14. Eye still improving. Artificial leech again applied to the temple.

From this time, under the above treatment, the eye improved, so that in about ten days thereafter he went to work with vision of  $\frac{1}{2}$ .

The points of interest in this case are:—

1st. The hemorrhagic spots on the iris.

2d. The gelatinous exudation into the anterior chamber from the iris.

3d. The primary cause, whether of syphilitic origin or not.

The hemorrhagic spots were peculiar. When first noticed there appeared but three or four little globules of blood oozing out of and resting on the iris, no doubt held in position by still being under the epithelium of the iris. These increased in numbers, and some coalescing formed long oval spots, then passing through the epithelium fell to the bottom of the anterior chamber, forming a hyphæma.

The first appearance of the gelatinous exudation was immediately over the pupil, and appeared issuing from or attached to the inner edge of the iris; looking as if the lens was slipping through the pupil.

From the symptoms of the sore throat and the cloudiness of the vision, I have no doubt that he had a urethral chancre at one of the times he says he was suffering from gonorrhœa, and that syphilis was the real cause of the disease, although at no time could I see a well defined gummy tubercle on the iris.

Schmidt, of Marburg, is the first to have written upon this peculiar exudation from the iris into the anterior chamber. In 1869 he called the attention of Prof. V. Graefe to it, who said

that he had seen but a couple of like cases, but had made no particular notes thereof.

In Schmidt's paper he describes two cases which came under his care, but says nothing of syphilis as the primary cause, claiming it as a rheumatic affection.

In looking over them and their treatment, I am inclined to think that there was really more syphilis than rheumatism at the foundation of the disease. In the last case he describes, he at first thought that it was a dislocation of the lens, with secondary irido-choroiditis, and to relieve the severe inflammation placed the patient under the injunction of ung. hydrargyri. Under this treatment, he says, he was surprised to see the exudation become reduced and absorbed. On the sixteenth day after the beginning of the treatment there was a little exudation of blood into the anterior chamber, which was again absorbed the second day after. He does not, however, mention anything about the appearance of little blood globules on the iris first. He also found clouded vitreous as soon as an examination with the ophthalmoscope could be made. He does not say if he even inquired or examined for any previous syphilitic infection. His treatment was entirely anti-syphilitic, under which they recovered.

Gunning, of Amsterdam, in 1872 published three cases of this peculiar exudation, in two of which he found syphilis the primary cause of the iritis, and one doubtful, "rheumatism" being given.

Kipp, of Newark, N. J., published a case in 1873, in which syphilis was the primary cause.

All the cases so far published have been males. In looking over these cases I am of the opinion that where this peculiar gelatinous exudation from the iris into the anterior chamber is found or takes place with iritis, that syphilis, either acquired or congenital, will be found in the patient.

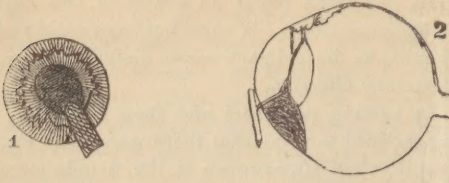
#### Granuloma of the Iris, Extending through the Cornea.

G. S., æt. 21, machinist, came to me November 10th, 1866, to have his left eye examined, it having been injured some days previously by a ragged piece of iron nail butt flying against it.

There was found a traumatic cataract, a long cicatrix across the outer half of the cornea, running at an angle of  $150^\circ$ , and extending out of the cicatrix there was a flat hammer-shaped



fleshy tumor, lying in the cornea. Perception of light was good.



The tumor was 6 m.m. long, 3 m.m. broad, and 2 m.m. thick, and was attached to a small round pedicle that passed through an aperture in the cornea, on the line of the cicatrix, and connected with the iris and spread out on the anterior capsule. The capsule was thickened and appeared quite vascular on that side.

The iris had prolapsed into the wound of the cornea, and no doubt was lacerated at the time of the injury. The pedicle seemed to run along and was lying on the prolapsed iris. The iris was not inflamed, nor changed in color.

There was no pain attending it, but much inconvenience at times by the lids, on closing, catching it and drawing it from its base.

The history given was, that there was considerable pain and inflammation for a day or two after the injury, but it soon passed away, and a little fleshy spot showed itself on the eye, which continued increasing, and at the same time flattened out until it had attained the size above mentioned, when he sought surgical advice.

I proposed the removal of the cataractous lens and the lower and outer part of the iris with the granuloma, but the patient would not consent to undergo the operation, so I cut the pedicle through close to the cornea, touched the point with caustic, and applied a firm compress bandage over the eye.

I saw him several times in two to three months after, during which time there showed no disposition of its returning, and the eye remained in good condition. Since then I have heard nothing from him. He promised to come to me if it should grow again.

Granulations proceeding from the iris and ciliary body after lacerating wounds, do sometimes form in the eye and produce more or less irritation. At times become large fungoid masses, destroy the eye by bursting through the cornea, and then shrink, leaving the bulb atrophied.

In this case the granulation formed, and following the track of the prolapsed iris, pushed

out through the incision in the cornea before it had entirely healed.

#### Congenital Hereditary Dislocation of Both Lenses.

E. D., aged 28, residing in Lycoming county, Pa., was brought to my clinic at the Philadelphia Eye and Ear Infirmary, January 13th, 1872, for an affection of her sight, with the history that ever since her birth she has had poor vision, never having been able to attend school, although she has made out to teach herself to read by the use of very large type.

She is of normal stature and build, and always enjoyed good health. The eyes are small, diameter of the cornea reduced. Iris dark hazel; pupils rather contracted. On fixation on any near object, the right eye deviates somewhat outward. Her vision is, large objects at ten to twelve feet without distinguishing them. With + 4 glass vision  $\frac{15}{cc}$ . With +  $3\frac{1}{2}$  reads Jager's test types, No. 6, at eight inches.

In looking directly in the eyes a grayish-white cone-like projection is perceived coming from the lower and outer part of each pupil.

The pupils being dilated by atropia (4 gr. solution), ophthalmoscopic examination showed dislocation of both lenses outward and downward, and now opaque and shriveled, the line of vision being over them.

There is also a singular involuntary spasmodic movement of both eyes and the brow. Every few minutes the brows would contract, and the eyeballs would roll upward and inward as far as the muscles could draw them, being a spasmodic contraction of the corrugator supercilii, and superior and internal recti and inferior oblique of each eye.

Upon questioning her why she did it, she replied that she was perfectly unconscious of any movement.

She, and the lady with her, reported that the patient's mother, sister and two brothers were affected with the eyes and sight just as she is; and that the mother had three brothers and her father similarly affected.

If this is so, it is a very remarkable case of hereditary abnormality of the eyes existing in so many members of one family.

It is now a well established fact that there are persons born with the lenses of the eyes out of the natural position, or rather displaced from the normal situation, but still remaining within the ciliary processes, and sustained by the normal attachments. This condition, though rare, is

often hereditary, and sometimes exists in several members of one family.

The displacement, according to Stellwag, usually takes place upward and inward. The above case deviating, however, from the usual rule, in the situation being downward and outward.

The lenses in this position often remain transparent for years, perhaps through life, while in some, laminated cataract is developed. There is always great disturbance and difficulty in vision. If by contraction of the iris the rays of light pass through the edge of the lens lying in the pupillary region, the adjustment is myopic,

and with some, astigmatism is combined ; while if the rays pass directly in, by, or over, or under the edge of the lens and not through it, it is adjusted as in aphakia (absence of lens), strongly hypermetropic. Occasionally, deviation of the optic axis takes place, that is, the eyeball turns in or out, up or down, from its normal position, to allow the rays of light to pass clearly and unobstructed in through the most transparent part of the pupil, causing an accommodative strabismus ; as in the case above, the right eye deviated outward on fixation of objects.



